



Volume 15, No. 10

November, 1964

GOVERNOR PRESENTS WALLY PATEFIELD WITH FAA SAFETY AWARD

At a presentation ceremony held in the Governor's offices in the State Capitol Building, Monday, October 19th, Governor Tim Babcock presented a plaque and certificate to Wallace Patefield, Skyways Aircraft Repair in Great Falls, for being the recipient of the 1964 Aviation Mechanic Safety Award for Montana.

Attending the presentation ceremonies were: Mrs. Patefield, Mr. Wes Pearson of the FAA's District Office in Helena; Director Charles Lynch and Jack Wilson, Safety and Education Officer from the Montana Aeronautics Commission; Mr. Homer Holman of Skyways Inc., his father, Mr. Leonard Holman and Mr. Bob Huston of Skyways Aircraft Repair.

Wally won the award with his fabrication of a tool utilizing a whistle method to locate the compression stroke and top dead center of a particular aircraft cylinder. The tool affords a quicker, safer and more economical method of timing the engine. The tool is adapted to a spark plug shell which is screwed into the desired cylinder spark plug port causing a whistling when approaching top dead center, then the sound stops even top dead center is reached.

The Safety Award Program was initiated by the Federal Aviation



Lt. to Rt. MAC Director, Lynch, Governor Tim Babcock, Award Winner, Wally Patefield and Wes Pearson, FAA representative.

Agency in 1963 and is conducted in Montana with the cooperation of the Montana Aeronautics Commission and the Montana Aviation Trades Association. The program was designed to select mechanics who have made outstanding contributions to aviation safety during the years. It is the hope that this program will bring greater recognition to the mechanics; emphasize their vital role in air safety;

to foster the aviation mechanics continuing pride and skill in their work and increase incentive to improve safety factors in the industry.

Wally, as the Montana State winner, is eligible to be considered for the FAA's Central Region Award. The Central Region consisting of 12 states, will select a winner in November. There will be a total of 14 regional

(Continued on Page 3—Col. 1)

Official Monthly Publication
of the
**MONTANA AERONAUTICS
COMMISSION**

Box 1698

Helena, Montana

Tim Babcock, Governor

Charles A. Lynch, Director

Gordon Hickman, Chairman

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DIRECTOR'S COLUMN



"A PROGRESS REPORT"

We are very pleased to make the following progress report relative to the Montana Communications Study which has been underway for some time now between FAA Officials of the Central Region Office in Kansas City, Missouri, and your Director for the Aeronautics Commission.

At a recent conference in Kansas City between the Regional Director, the Assistant Director, and various division heads for the FAA, and the Director of the Aeronautics Commission, a number of items covered in discussion pertaining to the communications problem here in Montana were as follows:

1. Low frequency ranges and homers.
2. OMNI stations.
3. Hi-site communications outlets.
4. Manicom stations.
5. Hard-core stations.
6. Specific problems on particular locations.

I am very pleased to report that the status of the fiscal year—65 budget items for Montana indicates that assurance has been received from the Washington office that, and LRCO for Glasgow, and a TVOR for Kalispell will be assigned in the very near future.

A limited remote communications

outlet (LRCO) has been approved for Glasgow. In addition to giving Glasgow an approach on the military omni with a communications link to the ARTC Centers through the peripheral site presently located on Glasgow Airport, there will be added to the peripheral site a 122.1-122.2 mc. communications link direct to the Miles City FSS. This will give VFR traffic a communication channel through an FSS instead of the ARTC Center down to ground level in the Glasgow area.

A terminal VOR (TVOR) has been approved for a mountain site location north of Kalispell. It is hoped the location will serve both as a terminal facility for Flathead County Airport and yet be mounted high enough to satisfy the requirements for "Hi-Site" communications VFR outlet remoted to the Missoula Flight Service Station.

In addition to the above, your Director was advised that there will be no Manicom Test site established in Montana this year. Therefore, any previous rumors relative to the establishment of a test site in Montana sometime during the first six months of 1965 are obviously a rumor.

Considerable time was spent during this conference establishing, for possible future use of the Aeronautics Commission, a detailed cost of operations for the "H" facilities presently operating at Lewistown, Livingston, Whitehall, Dillon, Helena and Cut Bank.

Your Montana Aeronautics Commission at this time, is presently conducting a study into the cost of operations for "H" marker type of facilities for future use in event there becomes a need to establish one or more "non federal" navigational facilities here in the State of Montana.

At the time of the conference the FAA Regional Office also advised that the "H" marker which had been shut down in the Lewistown area but had not been disassembled, would again be turned back on into full operation as of October the 20th.

Included in the study at this time are capital outlay costs for the installation dual VOR equipment. At the present time studies are not completed on maintenance or operation costs including technical assistance, utilities and supplies for either single channel VOR which appears to be about the minimum needed facility in the Havre area. However, criteria has been fairly clarified as to the use fac-

tor involved to justify the installation of a federally operated VOR in that vicinity.

Further studies are presently being made on the potential which may exist in community operation of a public "H" facility, similar to the line of equipment presently operated by the various Aircarriers, under license with Aeronautical Radio, Inc.

Your Director would like to assure you that these studies will be carried forward. Every effort will be expended so that through the mutual effort of both the Montana Aeronautics Commission and the Federal Aviation Agency a good usable pattern of navigation and communication facilities will be established, and that the entire State of Montana will eventually be adequately covered.

"F & E PROJECTS"

The following is from a report of the Federal Aviation Agency, prepared by Program Management Staff.

Conversion of Existing VOR's to VORTAC

Butte, Montana—October 1965

Cut Bank, Montana—April 1965

Helena, Montana—April 1965

Lewistown, Montana—October 1964

Missoula, Montana—October 1964

Whitehall, Montana—Sept. 17, 1965

Relocate ATC Towers

Great Falls, Montana—August 1966

VHF/UHF DF—Established

Billings, Montana—December 1964

Miles City, Mont.—December 1964



FEDERAL AVIATION AGENCY ITINERARY LISTING

Airport	Nov.	Dec.
Bozeman	12	10
(Gallatin Field)		
Culbertson		2
Glasgow	4	
Glendive		16
Great Falls	5	3
(International)		
Miles City	18	
Missoula	19	17
Sidney	19	

NOTE: Provisions have been made to give private pilot written examinations on an appointment basis only at the following FAA Flight Service Stations:

Bozeman	Lewistown
Butte	Livingston
Cut Bank	Miles City
Dillon	Missoula

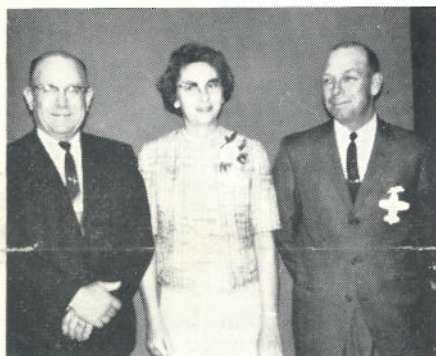
What's this "pie in the sky" business? If I ever see one up there going to duck!!

GOVERNOR PRESENTS AWARD

(Continued from Page 1—Col. 3)
awards given, one air carrier and one general aviation award in each district. Two Grand National winners, one in each category, will be selected from the regional winners in December.

FLYING FARMERS ELECT NEW OFFICERS AND QUEEN

The following new officers were elected during the Montana Flying Farmers and Ranchers Convention held at the Yogo Inn in Lewistown, October 2, 3, and 4. Earl Keister, Conrad, President; Henry Wood, Gilford, Vice President, and Verna Wood, Gilford, Secretary-Treasurer. Mrs. Clay (Eleanor) Greening was elected "Queen" for the coming year.



Incoming Officers, Earl Keister, President; Verna Wood, Secretary-Treasurer; and Henry Wood, Vice-President.

The formal business sessions began at 9:00 A.M. on Saturday and covered a review of the Montana and Region 7 activities and the 1964 National convention at Miami.

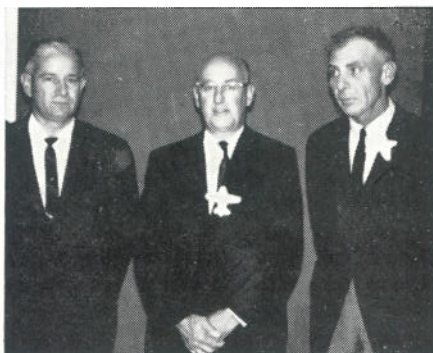
Queen Verna Wood was hostess for the ladies noon luncheon and comments on the General Aviation Aircraft Owners Survey was the highlight of the men's luncheon.

Miscellaneous business items and the election of officers were first on the agenda of the afternoon session. Lee Mills, Supervising Inspector of the FAA-GADO in Helena, was the featured speaker during the afternoon and spoke on "The Services and Program of the General Aviation District Office."

President Ermal Hansen opened the evening banquet program with a welcome and introduced Mayor Bill

Wicks and his wife Hazel. Mayor Wicks gave an official welcome to Lewistown to the approximately 50 persons attending.

Mr. Lee Olsen, Master of Ceremonies, introduced Queen Verna who presented the International Queen, Lila Eickhoff, Fountain, Minnesota, her husband Don and two lovely young daughters. International Vice President, Dayton Chisholm, Fort Pierre, South Dakota, spoke briefly on the International Flying Farmers program and stated the exceptionally good relations between the Canadian and U. S. Chapters.



Left to Right—MAC's Jack Wilson, Mr. Henry Newman, FAA's Deputy Director of Central Region Office; and Flying Farmers Out-going President, Ermal Hansen.

The featured speakers for the evening were Henry Newman, Deputy Director of the FAA's Central Region and Mr. Jack Wilson, Safety and Education Officer for the Montana Aeronautics Commission.

The topic of the program was "The Airport and Air Navigation Policy." Mr. Newman explained that the FAA, fully realizing the criticism received for the monies spent on air carrier and military, has a limited budget at the present time and due to the vast difference in passenger and cargo capacity and the cost of modern communications, such as radar, etc., the larger portion of their budget must be expended on the airlines and the military facilities. Mr. Newman did declare that stress is definitely being placed on General Aviation. He continued to relate the limitations of the current budget and that the principal aim is to reduce maintenance costs, have better equipment and lower employment levels and that their proposed program will mean several millions in savings. Mr. Newman did point out that there would not be an employee lay-off,

however, there would be a very limited number, if any, replacements for retiring employees and other position vacancies.

Mr. Newman stated that the FAA did recognize a number of differences that Montana had in comparison to many of the states as to terrain, weather and our communication needs and that further investigation of these needs was underway at the present time. He commented that the Lewistown L/MF "H" Marker would be returned to service.

Mr. Jack Wilson, in giving his opening presentation, expressed his pleasure in attending and gave a brief explanation of the various terms of the communication problems under discussion. Mr. Wilson stated that the FAA's budget limitation was recognized but recounted what the "cut-back" would mean to Montana's flying public. Jack elaborated on the VORTAC and the Hi-Site situation in Montana with weather remotes to hard core stations. He then declared that Mr. Lynch and the Commission would continue to labor toward a complete and thorough system of aeronautical communication in Montana.



Flying Farmer Royalty (seated) Incoming Queen, Eleanor Greening, International Queen, Lila Eickhoff. (Standing) Visiting Queen from So. Dakota, Arlowyn Boecklehide; International Vice-President, Dayton Chisholm and Montana's Out-going Queen, Verna Wood.

Following a brief question and answer period, President Ermal announced that special mention was given for exemplary efforts in the interest of aviation in our state during the past year to 3 deserving individuals. (1) **Public Official**, "For aviation encouragement in Montana," Governor Tim Babcock; (2) **Operator of the Year**, Jim Stradley, Gallatin Flying Service in Bozeman, for his efforts on behalf of the NIFA pro-

gram and (3) Flying Farmer member doing most for his chapter, Leonard Sorenson, Bozeman.

Out-going Queen Verna presented Queen-elect Eleanor with several gifts and the Queen Coronation was held.

The Montana Aeronautics Commission staff members attending the banquet wish to thank Eral, Verna, Mayor Wicks and his wife and the members of the Flying Farmers for the hospitality and consideration shown to them!

FEDERAL AID AIRPORT PROGRAM FOR FISCAL YEAR 1965 ANNOUNCED BY FAA

Allocation of \$72,609, 337 in Federal matching funds for the construction and improvement of 413 civil airports for fiscal year 1965 under the Federal Aid Airport Program was announced today by N. E. Halaby, Administrator of the Federal Aviation Agency.

The allocations are based on an appropriation six weeks ago by the Congress of \$75 million for fiscal year 1965. An additional \$75 million was appropriated for fiscal year 1966. In March 1964, the President signed legislation extending the Federal Airport Act for three years covering fiscal years, 1965, 1966 and 1967, but appropriations did not become available for programming until August 30, 1964.

Local project sponsors will match the Federal funds generally on a 50-50 basis. In some cases States also provide matching funds. Until grant offers are actually tendered, allocations or projects are tentative and subject to reprogramming.

The current program, as in the past three years, places emphasis on the construction and improvement of airports serving general aviation (non-airline) operations while at the same time providing substantial funds for airports serving all segments of aviation.

The program allocates \$19,224,726 for general aviation use exclusively. This includes \$8,605,546 for the construction of 86 new public general aviation airports and \$10,619,180 for the improvement of 164 additional general aviation facilities.

Allocations totaling \$53,384,611 are made in the program for 163 airports serving all segments of aviation. This includes \$456,500 for four new airports and \$52,928,111 for the improve-

ment of 159 additional airports.

The tentative allocations were made after careful consideration of 570 requests for Federal aid, which totaled \$137 million.

Montana's state apportionment under the Federal Air Airport Program appropriation for fiscal year 1965 amounts to \$1,088,320.

To date 5 projects have been established for Montana totaling \$418,882. The five projects are as follows:

Benchmark (New)—U.S. Forest Service: \$167,200. Construct NW/SE runway, apron and taxiway; install segmented circle and wind cone; fencing.

Billings—City of Billings: \$80,151. Reconstruct north end, runway 4-22 (approx. 2840' x 150').

Jordan—Garfield County: \$27,540. Construct NW/SE runway (3,200' x 75'), connecting taxiway and apron; install segmented circle and wind cone; fencing.

Kalispell—Flathead County: \$10,182. Acquire NE/SW clear zones.

Missoula—Missoula County: \$133,809. Construct taxiways to terminal apron; install high intensity lights on runway 11-29, taxiway lighting and vault rewiring.



CALENDAR

November 10, Helena. Montana Aeronautics Commission monthly meeting.

November 11, Lewistown. Veterans' Day Air Festival (see article).

November 18, Washington, D. C. The Civil Aeronautics Board Hearing—Frontier Airlines "Use It Or Lose It" case.

November 21, Helena. Selection Board meets for Seminar for Youth.

November 29, Helena. Registration Day for the Second Montana Aviation Mechanics Seminar in the Commission offices on the airport.

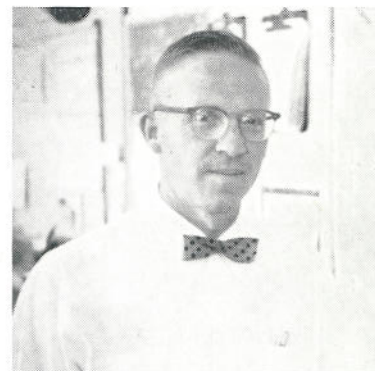
November 30-December 7, Helena, Montana. The Second Aviation Mechanics Refresher Seminar.

December 15-17, Washington, D. C. The Seminar for Youth.

January 1, 1965, Pilot Registration becomes due. Mark your calendar. Send in your registration on or before January 1, 1965.

GREAT FALLS WEATHER EMPLOYEE RECEIVES PROMOTION

Harry Elser, U. S. Weather Bureau employee, Great Falls, received a promotion and transfer to U. S. Weather Bureau's regional office in Salt Lake City and assumed his duties as head of the Data Acquisition Branch the latter part of October.



Harry Elser

Harry is a very familiar figure among the Montana aviation set, in addition to his regular visitations to weather bureau stations around Montana, Harry participated on the Montana Aeronautics Commission's Flight Instructors Refresher Courses all three years. Harry was a strong supporter of the course and coordinated in the preplanning stages in addition to being an instructor in the Weather Portion of the Ground School.

Harry is a native of Sheridan, holds a Bachelor of Science Degree from Montana State College and obtained his degree in Meteorology from the University of Chicago.

After spending four years in the U. S. Air Force during World War II, Harry returned to Montana in 1946 as a weather forecaster at Great Falls. He spent two years in Helena, before being transferred to El Paso, Texas for a period of 8 years. Harry returned to Great Falls to become the Quality Control Officer for Montana, the position he held until October 22 when he departed for Salt Lake City.

We "thank" Harry for his whole hearted cooperation and extend our very best wishes to the Elses in their new location.

Maybe men are better drivers than women, but you never hear of a woman wrecking a car because some man on the corner had nice legs.

FAA PUBLISHES NEW AIRMAN'S INFORMATION MANUAL

The three flight information publications of the Federal Aviation Agency—the **Airman's Guide**, the **Directory of Airports and Seaplane** and the **Flight Information Manual**—will be replaced December 10 by a single streamlined volume, the **Airman's Information Manual (AIM)**.

The new publication is designed to serve as a convenient preflight and inflight reference source for pilots. It will provide basic information needed to plan and conduct a safe flight in the nation's airspace.

Only information of operational value to pilots will be published in the AIM. Administrative and legal notices and other extraneous information contained in existing flight information publications will be eliminated.

The AIM will be divided into five separate sections for use in a loose-leaf binder. Sections will be revised either monthly, quarterly or semi-annually. There also will be a bi-weekly summary of NOTAMs (Notices to Airmen). Each section will be individually bound and completely replaced when any revisions are necessary. This eliminates the time-consuming task of replacing individual pages or making handwritten changes.

Section I of the AIM is the "Basic Flight Manual." It covers all instructional information of a relatively permanent nature such as a description of the various navigation aids and the proper procedures for using them. Also included are procedures for obtaining weather and other flight information, preflight services, inflight services and other similar services. It will be published semi-annually.

Section II covers "Air Traffic Control Operational Procedures." Included are Instrumental Flight Rules (IFR) and Visual Flight Rules (VFR) procedures, as well as departure, enroute and arrival operation procedures, emergency procedures, and other similar information. Publication will be quarterly.

Section III covers "Flight Data and Special Use Airspace." Among other information, it provides a detailed description of the NOTAM code and also covers special notices and a list of the latest U. S. Coast and Geodetic Survey charts and special use airspace

charts. Publication will be every 28 days.

Section III-A is the "Bi-weekly Notices to Airmen." This section will include only those NOTAMs which will remain in effect for at least half the time period covered by each issue. Appropriate Airman Advisories and minor changes in Oil Burner Routes also will be included. Publication will be every 14 days.

Section IV—the Airport/Facility Directory—also will be divided into two parts. Section IV-A will include all major and intermediate airports having terminal navigation aids and communications facilities and will be published every 28 days. Section IV will include all other pertinent airports and will be published semi-annually.

The AIM will be sold through the U. S. Government Printing Office. The annual subscription price of \$15 will include all amendments for each section in accordance with the revision schedule for that section.

Superintendent of Documents—Government Printing Office, Washington, D. C. 20402.

HAVE YOU READ?

The new "Private and Commercial Pilots Refresher Courses." In response to requests for official recommendations for advanced flight training, the FAA, Flight Standards Service developed refresher courses and presented them in this booklet, issued as Advisory Circular No. 61-10.

The course booklet contains chapters on:

- Syllabus for pilot refresher course.
- Refresher Ground Instruction.
- Refresher Flight Instruction.
- Syllabus for Instrument Pilot Refresher.

Refresher Ground Instruction for Instrument Pilots.

Refresher Flight Instruction for Instrument Pilots.

Flight Instructors Endorsements and Graduation Certificates.

You may obtain this booklet by order from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price 15c.

One wise teacher sent this note home at the start of the term; "If you promise not to believe everything your child says happened at school, I'll promise not to believe everything he says happens at home.

SCHOOL STUDENTS TOUR HELENA AIRPORT

Students from the Toston Elementary School recently toured the Helena Airport.

The groups were students of Mrs. Irene Dagnall, grades 3, 4 and 5 and Mr. John Donohue, grades 6, 7 and 8.

The tour was a part of the Aviation Education Program in the public schools under the supervision of Mary Jo Janey, Aviation Education Supervisor for the Montana Aeronautics Commission in cooperation with the Department of Public Instruction.



Teacher, Mrs. Irene Dagnall and her students during their visit to the Montana Aeronautics Commission viewed the Commission's Beechcraft 65.

REPORT ON ENNIS MPA FLY IN

Reports tell us that the Montana Pilots' Association Fall Fly-In at Ennis on October 25 was Great!

Over 50 persons arrived in 24 aircraft from cities throughout Montana including, Helena, Great Falls, Glasgow, Opheim and Devon.

Otis Crooker of the Sportsman's Lodge worked hard to have all facilities, including the installation of a new tie down cable, as near to perfect as possible.

MPA President Markle and the members planning the Fly In did a wonderful job and even Mr. Weather—came through with two ideal "Indian Summer" days.

Accommodations, food, fun, weather and company—all added up to a wonderful time!

Certainly you can't fool all of the people all of the time. Quite a few of them are busy fooling you.

NATIONAL ASSOCIATION PRIEST PILOTS "FLYING PADRES"

by Rev. Francis T. Weidinger

The interests and development of aviation as an ever increasing part of our life and economy was given another boost in Carrollton, Kentucky, on July 12-16, 1964 when over 50 priests pilots gathered to formally organize the National Association of Priest Pilots. They came from 35 states as well as Canada, Costa Rica and New Guinea. The Author, with Father Bernard Geison, Great Falls, and Father Charles Mears, Medicine Lake, flew his Cessna 170 to the meeting. We made the 1,400 mile return trip in one day. The closing banquet also brought famous guests Max Conrad, Harold Krier and Jerri Mock.

The gathering of these Catholic priests was not just for a "fly-in" to have a good time, exchange tales of flying experiences, talk planes, radio, etc., but it was for a serious purpose as well. The four-fold purpose of this infant organization can best indicate this: 1. To promote the use of private aircraft as a practical, safe and efficient tool in the apostolic work of the priest. 2. To cooperate with other aviation and ecclesiastical groups wherever possible in order to promote aviation in the cause of the Church. 3. To insist on the safe and proficient use of the airplane by its members. 4. To encourage the use of private aircraft as worthy of the talents and dignity of the priests.

The mission purpose of this organization is the one that will receive the greatest promotion. The use of the airplane in saving time and expense is becoming better known every day. The author of this article first became interested in flying and got his license so that a 130 mile round trip to one of his outlying missions could be made in 30 minutes instead of the three hours by automobile. Many areas of the West present problems of transportation where missions are as far as 200 miles away from the residence of the priest that must serve them. In jungle areas of foreign countries missionaries are finding the airplane the means of tremendous savings in time and expense of moving necessary materials in their work.

The National organization was divided into eight regions covering the United States to enable members to better attend and plan meetings pro-

moting the work of this group. The Northwest Region comprises the States of Montana, Wyoming, Idaho, Washington and Oregon. The author was appointed director of this region. On October 13 a "fly-in" was held in Chinook, Montana, to formally organize this region.

FAA NAMES PALMER-SHEIM AND MORRISON AS FLIGHT EXAMINERS

Robert A. Palmersheim, Lynch Flying Service, Billings, and Jeffrey B. Morrison, Morrison Flying Service in Helena, were recently designated as Pilot Examiners by the Federal Aviation Agency. They will give flight checks for Private and Commercial certification in their respective areas.



Bob Palmersheim

Robert A. Palmersheim, General Manager of Lynch Flying Service, Inc., Billings, Montana.

Bob attended colleges in Portland, Oregon and Eastern Montana College of Education in Billings, majoring in History and Education. He was employed by Lynch Flying Service from 1952 until going into the army in 1954. After serving in England, he returned to Lynch's employ in 1956. In addition to being General Manager, Bob does charter and instruction.

With a total of 7,000 hours flying time, Bob holds a Commercial license with ratings of Flight Instructor ASMEI-Instrument and Instrument Instructor. Bob is a graduate of the first Montana Aeronautics Commission Flight Instructors Refresher Course held in March, 1962.

He was designated an FAA Pilot Examiner by F. W. Lueneberg, Super-

vising Inspector, FAA-GADO, Billings, on August 27, 1964.

Bob, his wife Mareita and their four children reside at 245 Avenue E in Billings.



Jeff Morrison

Jeff Morrison, Morrison Flying Service, Helena, Montana.

Jeff a few years after graduating from Helena High School and attending the Helena Public Aeronautics and Related Trade School, went into the U.S. Army and served as an aircraft mechanic from 1955 until 1957. After his discharge, Jeff was employed by Walt Hensley, Hensley Flying Service, Havre, then as Assistant Director of Aeronautics for the State of Idaho in Boise. Jeff returned to Helena to become associated with his mother, Bitty Herrin, in the operation of Morrison's.

Jeff attended the Flight Safety Foundation crash injury investigation school; the FAA Flight Instructors School; and is a graduate of the 1962 Montana Aeronautics Commission's Flight Instructor Refresher Course. He was recently elected Secretary of the Montana Aviation Trades Association.

Jeff, who doubles as an instructor and charter pilot, holds a Commercial ASMEI License and ratings of Instrument; Flight Instructor-Airplane and Instrument, and Ground Instructor-Advanced and Instrument.

He was designated Pilot Examiner by Arthur Kurth, General Aviation Operations Inspector, FAA-GADO, in Helena, in October of 1964.

The Morrisons and their young son Jack, reside at 1410½ 8th Avenue in Helena.

If you've given up trying to get something open, tell a four-year-old not to touch it.

AVIATION SAFETY DISCUSSIONS

By D. M. Gretzer
Former Chief, General Safety Div.
FAA—Alaska

"COLD WEATHER SAFETY"

Cold Weather Engine Operations

Each winter when the temperature gets well below minus thirty degrees, there are engine failures requiring aborted take-offs or resulting in forced landings. It's just "too cold." What is the effect of this "too cold business?"

Taxiing

If ground operations are conducted with no carburetor heat, the head temperatures are too low to completely vaporize the fuel. The raw fuel accumulation will foul the spark plugs, so that misfiring may occur during engine run-up or during take-off.

Mixture Control

If the outside air temperature is minus forty degrees, the pressure altitude is roughly five thousand feet below sea level considering that a twenty degree (F), temperature change is equivalent to a pressure altitude change of a thousand feet.

All engines adjusted for proper mixture control at sea level will run too lean. The use of carburetor heat during take-off and flight will accomplish two things: (1), The mixture will be made richer because of the reduced ram of air and because of the higher inlet temperature, (2), The higher air temperature will give more complete vaporization of fuel.

Discussion

Some pilots are reluctant to use carburetor heat on takeoff because most engine manuals say not to do so because of the loss of power. The loss is a fiction at low temperatures because there is so much power available at lower pressure altitudes, providing there is proper vaporization of the fuel. Excessive carburetor heat will cause detonation. The amount used of course depends on the particular installation and the heat available.

1. The inner linings of flexible fuel lines have a lower fusing point than the outer linings. Complete collapse from too much heat in fire-potting will occur, with no visible damage to the exterior surface. Engine failure because of fuel starvation will usually occur during take-off.

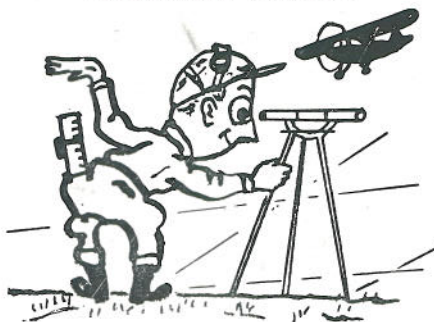
2. For every engine, there is a minimum temperature below which the engine will not run unless carburetor heat is used, even during take-off. This has nothing to do with carburetor ice. The problem is fuel vaporization.

3. Fuel selectors fail now and then. Some pilots always make it a practice to turn the selector to the fullest tank before flying over bad terrain, to avoid having to use the selector while over such terrain.

4. A similar problem to the previous item is frozen water or ice crystals in a fuel line. Pilots aware of this possibility run engines up on all tanks prior to take-off, and run about four or five minutes on each tank, in the air, as a check for fuel flow.

5. One of the inspections often overlooked when preflighting an airplane in the winter time is that of an interior inspection for wind blown snow in the fuselage. Sometimes the snow packs in so hard, control movement are restricted to a dangerous extent. Completely frozen controls, of course are obvious, but restricted movements may not be noticed until too late. Twenty or thirty pounds of snow packed in the tail end can seriously unbalance the airplane.

AIRPORT NOTES



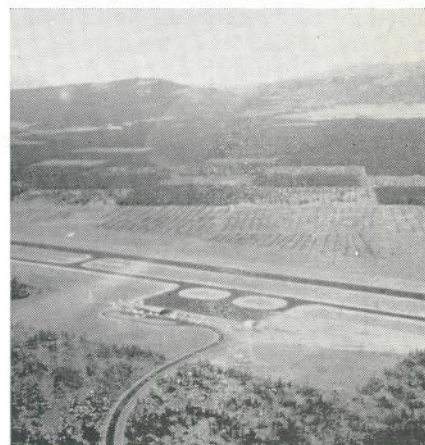
By James H. Monger
Assistant Director, Airports

Lewistown—The Lewistown Municipal Airport recently opened bids for a project that consists of rebuilding an old runway lighting system. The low bidder on the project was Rowe Electric Co. of Great Falls for the amount of \$17,983. The Montana Aeronautics Commission loaned the Lewistown Airport Commission \$9,080 to aid in the financing of this local, state and federal project. The MAC also made an engineering grant in the amount of \$650 available to Lewistown for the preliminary planning of the project.

Anaconda—The Anaconda Airport Board has recently retained Morrison & Maierle Consulting Engineers of Helena to conduct an engineering study for the Anaconda Airport. It is proposed that the airport will be paved next year. This would be a local, state and federal project, and at this time it is undetermined if the airport board that is being created will be a county or a city-county board. The airport board is going to purchase the privately owned airport that was developed by Ned Harrison and place it under the jurisdiction of the airport board. It is planned that engineering will take place this winter and construction during the summer of 1965.



West Yellowstone Airport—Looking northeast.



West Yellowstone—Aerial view of the aircraft parking apron looking from east to west.

West Yellowstone—The old West Yellowstone Airport has been officially abandoned by Gallatin County and the property turned back to the United States Forest Service. The old airport is no longer usable. The new Yellowstone State Airport 2 miles



Ekalaka Airport—A vertical photograph of the new Ekalaka airport.

north of town is now completed and open for traffic until snowfall closes the airport this fall. The new Yellowstone State Airport will not have any aviation services or field lights or unicom until June of 1965. The Administration Building will be officially opened at that time. It is presently still under construction.

Airport Registration—The Board of Directors of the Montana Pilots Association have recently initiated a new pilot registration program to be used on each airport. The MPA group has had registration forms printed up and they are now being placed at all airports that are not served with an FAA Flight Service Station facility. The purpose of the registration form is only to show the local airport board exactly how much traffic their airport receives. The registration forms become the property of the airport board, and they can use them to justify future projects through the proof shown on the form of the airport usage. The Montana Pilots Association and the Montana Aeronautics Commission urges all pilots to be sure and register when landing on one of these small, unattended airports. A complete system of registration stands will be installed next summer.

Malta—The Phillips County Airport Commission recently completed a runway slurry seal coat and apron enlargement project. The total cost was \$9,500. The slurry seal contrac-

tor was Robert Tindall of Lewistown and the apron contractor was Lou Richardson of Miles City.

A new stub taxiway was built from the runway onto the new apron addition. 60 foot radius turn-arounds were also placed on the runway ends. Total financing was from the local airport budget.

RICHEY AIRPORT DEDICATED

On October 3 the airport at Richey was dedicated. Three aircraft arrived from Sidney, and Mr. Bill Wenzel of Great Falls, Consulting Engineer on the airport flew in with Vernon Moody and Worthie Rauscher, Montana Aeronautics Commission engineers, from Helena.

A number of automobiles arrived with guests from Sidney, Terry, throughout Dawson County and local residents.

The Richey Commercial Club entertained the guests at a luncheon at the Richey Bakery Dining Room.

Due to high winds, the dedication ceremonies were held in the High School gymnasium, with Mr. Ole L. Jensen acting as Master of Ceremonies. The "welcome" address was given by Mayor Otis S. Waters, followed by Mr. P. P. Lawrence giving a history of the Richey airport dating back to 1945 when the first efforts were made by local residents to obtain an airport.

Montana Aeronautics Commission's engineer, Vernon Moody gave a brief explanation of the planning and completion of the airport, stating the total cost to be \$21,876; \$4,286.30 of the total will be repaid over a period of 10 years by Dawson County. Vern has worked on this project since it was in the actual planning and drafting stage, until the October dedication.

Mayor Waters gave the official Dedication Address followed by the introduction of the Dawson County Commissioners. Chairman Don Gibson gave a short talk and introduced Dan Price of Sidney. Dan introduced the Sidney group and Hurly Carey presented Norman Nelson, President of the Richey Commercial Club with a gift of flowers from the Aviation Committee of the Sidney Chamber of Commerce.

HELENA AIRPORT IMPROVEMENTS



The delta frame—coming down!

One more step in modernizing the Helena Airport, was the recent removal of an antenna platform, better known as a delta frame. The delta frame was no longer in use by the FAA and the area is now used for personnel parking, this leaves the front parking area clear for guests and airline passenger loading and unloading.

The Helena Airport Board is currently installing new street lighting and ramp lighting in the new general aviation ramp area.

ATTENTION: MONTANA AVIATION MECHANICS AND GENERAL AVIATION OPERATORS

**November 13—Deadline for
AMRS Application**

The second Aviation Mechanics Refresher Course will be held in Montana November 30 through December 7. Registration will be held on November 29 in the Montana Aeronautics Commission's offices, located on the Helena Airport.

Applications must be in by November 13. If you are interested in attending the seminar this year—please send in your application form and your qualification form immediately.

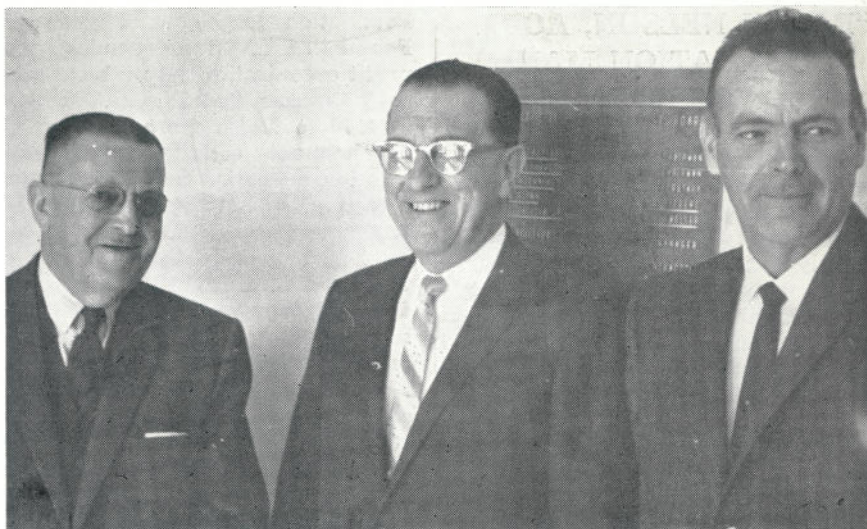
If you have not received the necessary forms, notify the Aeronautics Commission—P.O. Box 1698—Helena, Montana—and they will be sent to you by return mail.

HELENA'S NEW FAA OFFICE BUILDING HOLDS DEDICATION

The new \$85,000 FAA Office Building on the Helena Airport was dedicated on October 17, with Mr. Edward Marsh, Director of the FAA's Central Region Office in Kansas City, the principal speaker and Mr. Hugh Kelleher, Helena Airport Manager acting as Master of Ceremonies. Other featured speakers for the ceremonies were: Mr. C. E. "Sandy" McPherson, Chairman of the City/County Airport Board and Mr. Al Gaskill, Lewis & Clark County Commissioner.

In addition to Mr. Marsh the following officials were present from the Central Region Office: C. W. Kriske, Chief of Air Traffic Division; N. F. Barritt, Chief Systems Maintenance Division; L. R. Eichem, Assistant Chief-Flight Standards Division; Joseph H. Frets, Public Affairs Officer; Ken Van Arsdale, Flight Inspectors District Officer.

Also attending were: Representing the Montana Aeronautics Commission: Mr. Charles A. Lynch, Director and Mr. James Monger, Assistant Director; Dave Lewis, City Commissioner; Mr. Howard Schulyer, Mr. Reese Smelser and Mr. Arnold Kuenning, all of the City/County Airport Board. A number of the new building personnel were present including: Wes Pearson, District Airport Engineer; Charles Story, Chief of System Maintenance Sector; Arthur Kurth, Acting Supervising Inspector for General



Dedication Speakers—lt. to rt. Al Gaskill, Mr. Edward Marsh and "Sandy" McPherson.

Aviation District Office #9, and Elsie Childs, GADO Secretary; in addition to a number of the airport employees and local residents.

The new building, having some 4,000 feet of floor space, was financed with funds loaned by the MAC to the Airport Board on a 10-year repayment plan and will be repaid through office rentals of the Federal Aviation Agency. Offices located in the new building are: District Airport Engineer, GADO, Area Office of System Maintenance Sector.

"WEATHER BUREAU TELEPHONE NUMBERS FOR AVIATION SERVICE IN MONTANA"

Billings	252-7309*
Glasgow	228-8395
Great Falls	453-3512*
Havre	265-6424
Helena	442-8260
Kalispell	756-4829
Missoula	543-7996*

NOTE:

***Restricted Number. Use for Aviation Weather Information Only.**

FOR SALE: Cougar, Lycoming O-235C, 100 H.P. 200 hours on airframe—615 hours on engine. Sharp! Always Hangared. PRICE \$2,000—No trades. CONTACT: Paul Thurmond, 2930 Wynne, Butte, Montana.

FOR SALE: Cessna 120—Full Electrical System—Basic Panel—Razor Backed covered wing—Recovered in 1963—350 hours since major—New paint 1963—jump seat, radio Narco—Low frequency receiver—Hi-frequency transmitter. Price: \$2,500. CONTACT: Gerald Ohs, Malta, Montana—Phone 021-J-3.

FOR SALE: Cessna 120—Fiberglass wings, 48 HSTO, Narco Superhomer with Omni—good glass, tires and nice interior. Price \$2,350. CONTACT: Dr. J. L. Cromwell, P.O. Box 420, Livingston, Montana.

LEWISTOWN TO HOLD VETERANS' DAY AIR FESTIVAL

The Central Montana Hangar at Lewistown will sponsor a Veterans' Day Air Festival on November 11.

Funds from the Festival will be used for the MPA Convention to be held in Lewistown next Spring!

A no-host breakfast is scheduled from 7:00 to 8:30 A.M. at the Airline Cafe.

Registration for Guests and Contestants, 7:00-10:00 A.M.

The following contests will be held:
Spot Landing

7:00- 9:30 A.M.

Maximum Performance Circuit

9:30-10:30 A.M.

Parachute Drop

10:30-11:00 A.M.

Bomb Run

11:00-12:30 P.M.

Penny a Pound Flights

11:00-12:30 P.M.

Fly By of New Aircraft

12:00- 1:00 P.M.

Parachute Drop

1:00- 1:30 P.M.

Paper Cutting Events

1:30- 3:00 P.M.

Penny a Pound Flights

3:00 P.M. on

New Aircraft, Static Displays! Jet Fly By! A band will be on hand! Courtesy cars will be available! (In the event of bad weather—postponement date will be Sunday, November 15).

**JOIN THE FUN AT LEWISTOWN
ON NOVEMBER 11th!**

"RALPH NELSON, AOPA FOUNDATION MAN CITED"

As Ralph Nelson was Course Director on the AOPA 360°, sponsored by the Montana Aeronautics Commission in Billings, September of 1963, we felt that Montana pilots, particularly those that attended the 360° Course, would enjoy reading this story. Ralph did a fine job on the Montana Course and we join with pilots all over the U. S. in congratulating him on his citation.



Ralph Nelson with award plaque.

Washington, D. C.—Ralph F. Nelson, project director of the AOPA Foundation Inc., was chosen recently by Alpha Eta Rho International Aviation Fraternity as the business executive who has done the most during the past year to advance aviation education in the United States.

Nelson was presented with the Alpha Eta Rho Award for 1964 at a special ceremony held in Washington, D. C., on September 9. He was cited specifically for his work with the AOPA Foundation, the flight training clinic program of the Aircraft Owners and Pilots Association, and his efforts in support of the National Intercollegiate Flying Association.

The Alpha Eta Rho Award, an inscribed bronze plaque, was presented to Nelson by Harold S. Wood, dean of Parks Air College, St. Louis University, and national secretary of the aviation fraternity. Last year's recipient of the award was FAA Administrator Najeeb E. Halaby.

A native of Beverly, Mass., Nelson has been project director of the AOPA

Foundation for about a year. The Foundation is an independent, non-profit organization set up by the Aircraft Owners and Pilots Association in 1950 to foster more research and development activity in improved aviation education and flying safety. Under financial grants from the Foundation, the Ohio State University Department of Aviation has developed several flight training courses designed to upgrade pilot skills and knowledge. As AOPA Foundation project director, Nelson has conducted flight training clinics throughout the country, making the pilot upgrading courses available to more than 5,000 private plane pilots. The clinics are co-sponsored by the Aircraft Owners and Pilots Association and local flying interest groups.

A CASE IN POINT

By Charles A. Smith
Commission Attorney

"Safety Violation-Operation of Aircraft in a Careless Manner"

The incident which gave rise to a recent C. A. B. investigation was an accident that occurred when defendant crashed his Piper JC-3 upon a ridge which he did not clear by reason of a downdraft.

The airplane, in approaching over what was approximately a thirty degree slope, was flying some 100 feet above the surface on a non-commercial flight to acquaint a powerlines officer with the practicability of aircraft to patrol the line. The flight had progressed some 55 miles successfully and the defendant had cleared a 9,000 foot ridge prior to the climb up to the 8,000 foot ridge where the accident occurred, some 400 feet from the top in distance along the slope and some 100 feet below the top vertically. The defendant turned out when he found the airplane losing flying speed, turning left to avoid a power line of high voltage which was strung to the right of the line his passenger was inspecting. In the turn the defendant failed to clear a tree which caught the airplane's wing tip, forcing it down among thick pine trees. His passenger sustained only minor injury of a sprained ankle. The defendant's airplane was totally demolished.

The Civil Aeronautics Board found that defendant violated Section 60.12 in that he operated an aircraft in a mountainous vicinity where he knew or should have known of the presence or potential presence of down-

drafts of air and operated at an insufficient altitude to prevent loss of control of the aircraft, resulting in endangerment and injuries to his passenger. The contention that the passenger assumed the risk was not a defense which would exculpate the pilot from his violation.

The Civil Aeronautics Board said that "the downdraft which caused the accident was a weather phenomenon which was to be expected by a reasonably prudent pilot along the path which defendant flew under the weather conditions prevailing on the day in question." Further, the defendant was aware that such a downdraft could be expected on the flight and, moreover, weather reports, which he failed to obtain but which were available to him, forecast the type of weather conditions which he met in attempting to fly over the ridge. Since the downdraft which caused the crash was either foreseen or foreseeable by the defendant, he had a duty to fly the airplane at a height that would have enabled him to clear the ridge upon encountering such a downdraft. The defendant failed in this duty and this failure constituted careless operation of the aircraft which endangered the life of another within the meaning of Section 60.12 of the Civil Air Regulations. Therefore, the Civil Aeronautics Board affirmed the Federal Aviation Administrator's order suspending defendant's airman certificate for 30 days. (Halaby vs. Lauterbach, C. A. B. No. SE-331, 1964).

NORTHWEST ELECTRA SERVICE 100% IN MONTANA

On October 25, Northwest Orient Airlines completed the replacement of piston-engined DC-6B transports in the Pacific Northwest with 400 mile an hour jet prop Electra Transports.

Northwest is now not only 100% Electra service in Montana, but 100% throughout the continental United States.

Air travelers will be offered service in faster, more modern aircraft, and as Electras are operated in combination first-class and tourist configuration, they offer their first air travel at lower tourist fares.

The entire region will benefit from the replacement and service will be improved on short-haul flights to all cities in the region.

The Electra carries 77 passengers.

(43 tourist and 34 1st class) and a crew of 5. The crew consists of Pilot, Co-Pilot, Engineer and two stewardesses.



Picture taken of Electra Crew during Helena stop on October 26. Captain Ed Stahl, Pilot—Bert Crooks, Co-Pilot—Nancy Fullar and Joey Barfknecht, Stewardesses. Engineer, Dick Simmet remained in the plane.

Mr. Frank Taylor, Northwest Station Manager for Helena, informed us that the Electra is the forerunner of "pure jet" service. In the not too distant future, the Northwest Airlines will have the Boeing 727 in service throughout the United States.



TOWER

OPERATIONS

MONTANA TOWER-CONTROLLED AIRPORT OPERATIONS

	September, 1964 Total Operations	Instrument Operations
Billings	9,210	684
Great Falls	8,456	731
Missoula	5,780	226
Helena	3,796	73

LADIES 99's ANNOUNCE OFFICERS

Chairman: Mrs. Robert W. (Elsie Johnson), Missoula, re-elected.

Vice-Chairman: Mrs. Glen T. (Elsie) Childs, Helena, re-elected.

Secretary: Mrs. Jack (Mary) Stevenson, Missoula, re-elected.

and Treasurer: Mrs. Sam (Sharel) Bitz, Helena, newly elected.

CONGRATULATIONS



CERTIFICATES ISSUED RECENTLY TO MONTANA FLYERS

- Jorgenson, Garfield W., Bozeman—Student
Baltrusch, Wm. H., Havre—AMEL added to Private
Richardson, Everett D., Belgrade—Student
Baltrusch, Otto Jr., Havre—AMEL added to Private
Corkery, Thomas J. Jr., Shelby—Student
Hansen, Laulette Irvin—Fort Benton—Instr. rating added to private
Gertzen, Joyce—Cut Bank—Student
Smith, Robert D., Butte—Student
Blank, Fred J., Great Falls—Private
Ackerlund, George C., Havre—Student
Kricken, Douglas Larry, Calgary, Alberta—Commercial & Instrument
Robert, Paul Alexander, Butte—Student
Lohof, Robert H., Great Falls—ASES added to Com. ASMEI Instrument
Gummer, Edwin R., Missoula—Student
Warner, Robert H., Great Falls—Student
Warren, Conrad K., Deer Lodge—Comm. ASMEI
Jordan, Donley B., Missoula—Private
Janus, Joseph J., Meyersdale, Pa.—Sr. Parachute Rigger, Back and Chest
Robert, Cora B., Butte—Student
Clarkson, Arthur W., Helena—Student
Palmquist, John A., Great Falls—Student
Ferris, Brian M., Calgary, Alta.—Commercial
Chase, Robert W., Malmstrom AFB—ASES added to Private
McClanahan, Wm. W., Great Falls—Student
Collins, John M., Bozeman—Student
Nordberg, Jack Dwain, Missoula—Student
Hanson, Bruce E., Missoula—Student
Hughes, Wm. (Bud) Jr., Missoula—Student
Fehr, Richard D., Missoula—Student
McHatton, John E., Missoula—Student
Ridgway, Jerry V., Missoula—Private
Ricks, Leon B., Missoula—Private
Nichols, Donald A., Helena—Student
Davies, John S., Great Falls—Private
Weston, Wm. Donald., Missoula—Student
Raymond, Keith E., Missoula—Student
McHatton, Marion E., Missoula—Student
Hornstein, Chas. L.—Missoula—Student
Stradley, David I., Belgrade—Instr. added to Flt. Instructor
Biggerstaff, Daniel R., Denton—Flt. Instructor
Fairhurst, Thomas E., Three Forks—Student
Hainline, Wm. E., Missoula—AMEL added to Private
Hudson, Dale A., Eureka—Private
Johns, Chas. M., Missoula—Private
Nottingham, Bruce A., Wayne, Penns.—Private
Stout, Carl W., Butte—Student
Knight, Harry E., Great Falls—Student
Klein, George W., Missoula—Student
Rieke, Tex, Wolf Creek—Student
Rieke, Ted Wm., Wolf Creek—Student
Anderson, Dale Carston, Dallas, Tex.—Instrument on Com. ASEL (Mil. Comp)
Chase, John A., Butte—Student
Thompson, Iver W., Lethbridge, Alta.—Student
Corbett, Michael J., Great Falls—Student
Burgess, Donna K., Helena—Private
Nelson, Wm. L., Dutton—Student
Palmer, Charles A., Great Falls—Student
Ferris, Brian M., YC (Calgary)—Instr. added to Com.
Skees, John R., Great Falls—AMEL added to private
Gibson, James R., Livingston—Private
Milligan, James M., Helena—Private
Ecton, Patricia J., Manhattan—Private
Fisher, Herbert B., Manhattan—Private
Amsden, Bruce L., Gallatin Gateway—Private
Fowell, Michael R., Great Falls—Flight Instructor

Howard, Robert C., Glasgow AFB—
Instr. on Mil. Comp
White, Larry W., Billings—Student
Lorenz, Richard K., Great Falls—
MEL on Private
Farmer, Joseph T., Billings—Private
Schultz, August L., Lewistown—
Student
Samson, Jack F., Billings—Student
Burrowes, Keith L., Poplar—Student
Badgett, George E., Ashland—
Student
Crosby, William A., Billings—
Student
Brensdal, Barbara V., Columbus—
Private
Wheatcroft, Robert Edwin, Sand
Springs—Private
Mocabee, Cecil A., Billings—
Student
Gilbert, Harlan Wm., Billings—
Student
Sulness, Norman L., Billings—
Student
White, Earl Tony, Ekalaka—
Student
Goddard, Donald H., Glasgow—
Commercial
Ripley, Anita T., Billings—Student

Mickelsen, Robert C., Portland—
Commercial
Taylor, Robert A., Chinook—
MEL on Comm.
Mills, Gary M., Billings—Student
Jacobson, Edwin L., Hardin—
Student
Lynch, Patricia A., Billings—
Student
Daniel, Arthur D., Billings—Student
Carter, Homer Lee, Red Lodge—
Private
Caldwell, Michael K., Billings—
Student
Burnside, Kenneth, Billings—
Student
Husman, Earleen, Roundup—
Student
Husman, Daryle, Roundup—Student
Blick, Harold Floyd, Glasgow—
Private MEL
Hoffman, Rev. Emmett, Ashland—
Private
Sveinson, Gordon I., Billings—
Private
Nickel, Herbert R., Kent,
Washington—Private
Buzalsky, Paul R., Billings—Private

FOR SALE: Late 1958 Cessna Skylane 182
—196 hours on \$2,000 chrome major by
Mercury Aviation, Minnesota. 37 hours on
factory overhaul prop—1,166 total time.
Full IFR equipped with 6 cyl. primer, cyl.
head temp. gauge—rotating beacon—2
month old new Narco Mark IV with Omni.
LFR-3. New heavy duty nose gear—New
tires, brake blocks and disc. Interior and
exterior in perfect condition. License to
May 11, 1965. PRICE \$9,750. Will deliver
for expenses. CONTACT: John Bragg, 19
Carol Lane, Livingston, Montana. Phone
222-2990.

Air Taxi Operators and Commercial Operators of Small Aircraft

The Federal Aviation Agency has
issued Advisory Circular AC No. 120-
14 to assist the air-taxi/commercial
operator in analyzing the privileges
and responsibilities under Federal
Aviation Regulations Part 135. All
affected individuals may obtain a
copy of this Advisory Circular by
routing a request to the Federal
Aviation Agency, Distribution Sec-
tion, HQ-438, Washington, D. C.,
20553, and identifying the publication
as "FAA Advisory Circular AC No.
120-14, Air Taxi Operators and Com-
mercial Operators of Small Aircraft"
dated July 6, 1964. There is no charge
for this publication.

MEMBER NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS

PURPOSE:—"To foster aviation as an industry, as a mode of transportation for persons and property and as an arm of the national defense; to join with the Federal Government and other groups in research, development, and advancement of aviation; to develop uniform laws and regulations; and to otherwise encourage co-operation and mutual aid among the several states."

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